What is claimed is:

1. A transgenic Dunaliella Salina bioreactor comprising a Dunaliella Salina as host, a foreign target gene and a selectable marker.

2. A bioreactor as claimed in claim 1, wherein said foreign target gene is derived from at least one selected from the group consisting of humans, animals, plants or microorganisms.

3. A bioreactor as claimed in claim 2, wherein said foreign target gene derived from microorganisms and plants is at least one selected from the group consisting of HBsAg, measles virus antigen, foot-and-mouth disease virus antigen, rabies virus antigen, larvacide, cytokinin, endochitinase, glucose-amylase P, thaumatin, seed-stored protein genes, etc.

4. A bioreactor as claimed in claim 2, wherein said foreign target gene derived from humans and animals is at least one selected from the group consisting of angiostatin, endostatin, hematoglobin, human factor III, human erythropoietin interferon, obese protein, human interleukin, human granulocyte colony stimulating factor, human macrophage colony stimulating factor, streptokinase, human protein kinase, growth hormone, tissue plasminogen activator, defensin, tumor necrosis factor, epidermal growth factor, bovine chymosin, and antibiotic peptide genes, etc.

5. A bioreactor as claimed in claim 1, wherein said selectable marker is at least one selected from the group consisting of spectinomycin or streptomycin resistance encoded by aadA gene, chloromycetin resistance encoded by cat gene, kanamycin or neomycin resistance encoded by npt II or neo gene, hygromycin resistance encoded by hyg gene, herbicide phosphinothricin (PPT) resistance encoded by Bar gene, etc.

6. A method for preparing the transgenic Dunaliella Salina bioreactor, further comprises the following steps:

(a) introducing foreign target genes into the cells of Dunaliella Salina using the transformation techniques.

(b) screening transformed cells of Dunaliella Salina.

7. A method as claimed in step (a) of claim 6, wherein said transformation techniques are one or more of the methods for genetic transformation selected from the group consisting of biological, physical and/or chemical methods.

8. A method as claimed in claim 7, wherein said biological method is a method introducing foreign target genes into Dunaliella Salina cells by agrobacterium Ti plasmid transformation system and/or plant virus vector system.

9. A method as claimed in claim 7, wherein said physical and chemical methods can be one or more of the group consisting of PEG, liposome, electroporation, ultrasonic delivery, gene-gun, microinjection, ultraviolet laser microbeam, glass bead agitation and aerosol gene delivery.

10. A method as claimed in any one of claim 7 to 9, further comprises the steps of constructing Dunaliella Salina expression vector and/or culturing Dunaliella Salina before introducing foreign target genes into the cells of Dunaliella Salina.

11. The uses of any transgenic Dunaliella Salina bioreactor as claimed any one in claim 1 to 6 in production of drugs or vaccines for humans and/or animals, and phytohormones.